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DESCRIPTION OF A NEW COLIAS FROM THE ROCKY MOUNTAINS, AND
OF AN EXAMPLE OF POLYMELIANISM IN SAMIA CECROPIA.

BY HERMANN STRECKER.

Colias elis.

♀ expands $1\frac{7}{8}$ inches; with the exception of the primaries being slightly more pointed apically, of the same shape as *Hecla*, of which species it may probably be a form, as it resembles it closely in many particulars.

Head, collar and antennæ dark pink or rosy; body black with greenish hairs.

Upper surface. Primaries bright orange, with blackish exterior margin of moderate width until towards the costa where it widens considerably; this margin encloses a row of seven ovate lemon-yellow spots or dashes which are rounded interiorly and somewhat pointed exteriorly; the two nearest the costa are much the smallest, the others are nearly uniform in size, though varying a trifle from each other in shape. A black discal spot, small and somewhat linear in one example, and nearly round and of fair size in another. Costa and fringe deep pink. Secondaries are orange, somewhat obscured with black atoms, a submarginal row of yellow spots, not quite as conspicuous as those of primaries, exterior to these at the apex and the apical half of costal and exterior edge, the wing is blackish; a good-sized deep orange or red lead-colored discal spot, round in one example and in another somewhat oblong, or rather the shape produced by a smaller round spot being joined and partly merged into a larger one; fringe same color as on primaries.

Under surface. Primaries orange on disk, with greenish exterior border of same width as the blackish border of upper surface; also greenish along the costa; edge of costa and fringe deep pink. A black discal spot with pale centre. Secondaries green, the inner two-thirds darker, leaving an exterior border of the same color but a shade paler. Costa and fringe as in primaries; discal spot silvery white, ringed with deep pink.

Albinous ♀ form. Upper surface white of greenish yellow tinge, the disk of primaries, especially towards the inner margin faintly suffused with a very pale ochraceous tint. On one example the blackish border and the discal spots are about the same as in the

orange form, on another the spots enclosed by the border of primaries are reduced to mere streaks and on the secondaries there are no traces of the border at all. In all examples of both forms there is a powdering of dark scales on the base of wings and along the inner margin of secondaries interior to the abdominal fold. Under surface as in the orange form, except that the orange of superiors is replaced by yellowish white, and the green of all wings is somewhat paler.

Taken by Capt. Gamble Geddes at an elevation of 10,000 feet, on the summit of "Kicking Horse Pass," in the Rocky Mountains, between Alberta Territory and British Columbia, at the boundary between the United States and the British possessions, about 300 miles north of Montana.

It is an act of temerity to describe a *Colias* as new under any circumstances in these days, and doubly so to describe it from examples of the female sex alone, yet I have no apprehension that the above insect will not stand as a valid species.

Capt Geddes took about fifteen examples, all females, nine of the orange form, and about six of the white; but nothing that could possibly be considered as the male. The other examples of *Colias* captured in the same locality were lemon-colored males and females probably of one species, and allied to *Pelidne*, but bearing no kinship to the above. The most remarkable and distinctive feature of this *C. elis* is the white female; as the species, I am positive, will be found, whenever the male is discovered, to belong to a group in which albinous females are unknown, its congeners being *Hecla*, *Hela Standingeri* and *Eogene*, species in which no instance of the pale female has yet been known to occur; all of which are found only at great altitudes or at the North Polar Regions and are in the male distinguished from the other red or orange species by the absence of the mealy kidney- or oval-shaped spot on the upper surface of the costa of secondaries near the body.

It is curious, in regard to these albinous females of the Coliades, that in one group they should occur in one species only, whilst in another there should be but one species, *C. Meadii*, found also at great elevation, in which they do not occur; and in yet another species, *C. Vautierii*, of the same group with the last mentioned *Meadii*, found in Chili, the female is always white, such a thing as a red one being entirely unknown.

An Example of Samia Cecropia having a Fifth Aborted Wing.—

I have lately received from Mr. Ph. Laurent, of Philadelphia, an example of *Samia Cecropia*, bred by him from a cocoon, having an aborted, or rather the portion of a third primary. It is a male of the ordinary size, expanding about $5\frac{1}{2}$ inches, and is one of those smoky varieties in which the red portion of the transverse bands on wings is very much narrowed. The right primary and both secondaries are normal in shape and marking. The left primary is in length from base to apex exactly the same as is the right; but in width from inner angle across to the costa, it is $\frac{3}{16}$ inch less; the markings are the same, allowing for a little condensing owing to the difference in the width. The venation is normal in all wings; the left primary is also somewhat narrower at the base where it joins the body; the inner margin is in exact line with that of its fellow, thus causing the wing at costa, where it joins the thorax, to be further in from the collar and head than its opposite.

The third primary, or rather portion of a primary, emerges from the side of the collar, and consists mainly of the costal and subcostal nervures, a small part of the median nervure, and a strip of wing about a quarter of an inch wide; but the latter was much curled and twisted in drying, and does not show this width fully. Its length is about two-thirds that of the normal wing with which it runs parallel, but it is in no way visibly connected therewith.

This form of monstrosity is apparently of exceedingly great rarity. I have heard of only three other instances—those recorded by Prof. Westwood in the Trans. Ent. Soc. Lond., 1879, pp. 220, 221, in which three diurnals are described, each possessing a third aborted right-hand secondary. In one of them, an example of *Gonepteryx Rhamni*, the normal right wing is much less than the left, the same with the second example, a *Vanessa Urticæ*, leading to the conclusion in those cases as with the *Cecropia*, that the abnormal wing was produced at the expense of the normal.

In the two cases just cited, the extra wing is joined at the base of the costa to the proper wing; in the third case mentioned by Prof. Westwood, it is apparently a streak or strip, as it were, on the inferior surface of right secondary, distinguished from the

rest of the wing, or the part thereof, by the difference in color and marking alone.

It will be noticed that in the case of the three diurnals, that the extra wing is always a right secondary, whilst in the *Cecropia* it is a left primary.